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Abstract

A strontium silicate-based phosphor, a fabrication method thereof, and an LED using the strontium silicate-based phosphor are provided. The phosphor is applied to a long wavelength ultraviolet LED, an active luminous LCD, etc., to enable an improvement in the color purity and to enhance the luminous efficiency. The strontium silicate-based phosphor is expressed by a chemical formula: $\text{Sr}_{3-x}\text{SiO}_5:\text{Eu}^{2+}_x$ wherein x is $0 < x \leq 1$. The LED using the phosphor has a wide wavelength spectrum, shows a superior color purity characteristic, and can have a very high luminous efficiency as applied in the backlight source of an LED panel or an active luminous LCD.